

PATENT SPECIFICATION

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DRAWINGS ATTACHED.

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COMPLETE SPECIFICATION.

Improvements in Photographic Cameras.

We, CERTO CAMERA-WERK VON DER GONNA & SOHNE, a Company organised and existing under the laws of Eastern Germany, of Pirnaer Landstrasse 227—229, 8046 Dresden, Eastern Germany, do hereby declare the invention, for which we pray that a patent may be granted to us and the method by which it is to be performed to be particularly described in and by the following statement:—

The invention relates to a photographic camera in which the film can be optionally inserted either directly into the winding-on chamber, without a film capsule, or into a film capsule fitted in the camera, and in which a leaf spring is provided in the winding-on chamber of the film.

It has already been proposed to wind the exposed film in a camera into a chamber without a take-up spool. To this end suitable light-tight take-up capsules have been provided. These capsules permit the exposed film to be removed from the camera without winding it back. However, they have the drawback that not more than twenty 24 × 36 mm pictures can be taken on the film because the friction in the take-up capsule then becomes excessive. Standard film magazines for the usual 36 pictures cannot be used in such apparatus.

In order to permit standard magazines to be used it has already been proposed to do without the take-up capsule and to wind the film into a completely empty winding-on chamber.

According to this proposal the film can be rolled up in the winding-on chamber by means of a leaf spring provided in the latter. The drawback thereby is, however, that the leaf spring prevents the optional use of capsules.

It is an object of this invention to arrange the spring in a spool-less film winding-on chamber in such a manner that the film is reliably gripped and rolled up without a capsule and that sufficient space remains free for easy insertion of a capsule, so that the film can optionally be inserted either directly into the winding-on chamber without a film capsule, or into a film capsule fitted in the camera.

This invention therefore provides a photographic camera in which the film can optionally be introduced either directly into the winding-on chamber without a film capsule or into a film capsule fitted in the chamber, wherein a film-guiding leaf spring is fixed in the winding-on chamber near a film entry slot and is curved around the chamber in a direction opposite to that in which the film rolls up, with the free end of the spring disposed behind a film-guiding edge, in the chamber, which edge deflects the film entering the chamber and initiates its rolling-up motion inside the spring. The expression "behind the film-guiding edge" means behind that edge as seen from the direction in which the film enters the chamber.

Desirably, the winding-on chamber provides space into which the spring can expand. The film entry slot is preferably flared and provided with a light-tight seal.

According to a subsidiary feature of the invention, two surfaces, for locating a spool-less capsule, are provided inside the winding chamber. These surfaces may be disposed in front of the guiding edge.

The invention will be described in greater detail by reference to an embodiment shown in the drawings, in which:—

Figure 1 is a cross section of a camera with

a spool-less winding-on chamber without a take-up capsule;

Figure 2 is a cross section of the winding-on chamber showing a take-up capsule inserted thereto.

On the winding-off side of the camera a full cartridge or magazine 2 containing the film is located inside casing 1. The film 3 can be pulled out of its magazine by a gripper or sprocket wheel 4 and transported through a film guide 5 into winding-on chamber 6 on the opposite side of the camera. A film entry opening 7 is flared for easy insertion of the end of the film.

The interior wall of casing 1 inside the winding-on chamber 6 forms a guiding edge 8 behind which is the leading end of a leaf spring 9 which is affixed to the casing at 10.

This arrangement leaves sufficient space inside the winding-on chamber 6 for the insertion thereto of a take-up capsule 13 and for the proper location of such a capsule by contact with the surfaces at 11 and 12. If it is desired to do without a take-up capsule 13, the film 3 will be transported to the guiding edge at 8 which deflects the film 3 and initiates its rolling up motion inside spring 9.

When the diameter of the coiled film increases the spring 9 is free to yield into the spaces available at 14 and 15 so that the full length of a film contained in a standard magazine or cartridge can be exposed in the camera.

If a take-up capsule is dispensed with the film must naturally be wound back into its magazine in conventional manner.

WHAT WE CLAIM IS:—

1. A photographic camera in which the film can optionally be introduced either directly into the winding-on chamber without a film capsule or into a film capsule fitted in the chamber, wherein a film-guiding leaf spring is fixed in the winding-on chamber near a film entry slot and is curved around the chamber in a direction opposite to that in which the film rolls up, with the free end of the spring disposed behind a film-guiding edge, in the chamber, which edge deflects the film entering the chamber and initiates its rolling-up motion inside the spring.

2. A camera according to Claim 1, in which the winding-on chamber provides space into which the spring can yield outwardly.

3. A camera according to Claims 1 or 2, in which the film entry slot is flared and provided with a light-tight seal.

4. A camera according to any of Claims 1—3, in which two surfaces, for locating a spool-less capsule, are provided inside the winding chamber.

5. A camera according to Claim 4, wherein these two surfaces are disposed in front of the guiding edge.

6. A photographic camera with a spool-less film winding-on chamber, substantially as described and illustrated herein with reference to the accompanying drawings.

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